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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,589	12/17/2003	Wataru Ito	500.43348X00	5718

24956 7590 10/26/2006

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EXAMINER	
RAO, ANAND SHASHIKANT	

ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 10/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/736,589	ITO ET AL.	
	Examiner	Art Unit	
	Andy S. Rao	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 12-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 12-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/3/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-10, 12-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Aviv.

Aviv discloses object tracking method for detecting and tracking an object in a picked-up image based on an image signal acquired by an imaging unit (Aviv: column 3, lines 39-54), comprising the steps of: detecting an image changing area between at least two frames of images picked up at different time points (Aviv: column 6, lines 50-60) by said imaging unit (Aviv: column 4, lines 43-60); and correcting by detecting the position of said object based on said detected image changing area and setting said detected object position as a new detected object position in place of the present detected object position (Aviv: column 6, lines 7-30), as in claim 1.

Regarding claims 2 and 20, Aviv discloses wherein said image changing area detection step includes the step of comparing the two frames of images acquired at different time points by

said imaging unit with each other and detecting an area associated with a greatest difference as the position of said object (Aviv: column 6, lines 60-67), as in the claims.

Regarding claim 3, Aviv discloses wherein said image changing area detection step includes the step of comparing the two frames of images acquired at different time points by said imaging unit with each other and detecting an area associated with a difference equal to or larger than a predetermined value as the position of said object (Aviv: column 7, lines 50-60: "signatures"), as in the claim.

Regarding claims 4-5, Aviv discloses wherein said image changing area detection step includes the step of detecting the image changing area by comparing the two frames of images acquired at different time points by said imaging unit in an uncontrolled state (Aviv: column 8, lines 45-65), as in the claims.

Regarding claim 6, Aviv discloses controlling the imaging direction of said imaging unit based on the relation between said detected object position and a predetermined reference position within the imaging field of said imaging unit (Aviv: column 6, lines 7-25), as in the claim.

An object tracking method for detecting and tracking an object in a picked-up image based on an image signal acquired by an imaging unit (Aviv: column 3, lines 40-54), comprising the steps of: producing a template image of a predetermined size including a part of said object from the image acquired from said imaging unit (Aviv: column 9, lines 1-10); detecting an image changing area between at least two frames of images picked up at different time points by said imaging unit (Aviv: column 6, lines 50-60); and correcting by detecting the position of said object based on said detected image changing area and setting said detected object position as a

new template image in place of said template image of said predetermined size (Aviv: column 6, lines 7-30), as in claim 7.

Regarding claims 8 and 21, Aviv discloses wherein said image changing area detection step includes the step of comparing the two frames of images acquired at different time points by said imaging unit with each other and detecting an area associated with a greatest difference as the position of said object (Aviv: column 6, lines 60-67), as in the claims.

Regarding claim 9, Aviv discloses wherein said image changing area detection step includes the step of comparing the two frames of images acquired at different time points by said imaging unit with each other and detecting an area associated with a difference equal to or larger than a predetermined value as the position of said object (Aviv: column 7, lines 50-60: "signatures"), as in the claim.

Regarding claim 10, Aviv discloses wherein said image changing area detection step includes the step of detecting the image changing area by comparing the two frames of images acquired at different time points by said imaging unit in an uncontrolled state (Aviv: column 8, lines 45-65), as in the claim.

Regarding claim 12, Aviv discloses controlling the imaging direction of said imaging unit based on the relation between said detected object position and a predetermined reference position within the imaging field of said imaging unit (Aviv: column 6, lines 7-25), as in the claim.

Regarding claims 13-14, Aviv discloses wherein said image changing area detection step includes the step of setting a search area for detecting the position of said object based on the present position of aid template image and changing said search range stepwise thereby to detect

an image changing area between said two frames in each of said search ranges changed, and wherein said object position correcting step includes the step of detecting an area having the greatest difference in said changed search ranges as the position of said object (Aviv: column 6, lines 10-16; column 7, lines 30-45), as in the claims.

Regarding claim 15, Aviv discloses wherein said image changing area detection step includes the step of enlarging or moving said set search range stepwise (Aviv: column 8, lines 55-65), as in the claim.

Aviv discloses object tracking apparatus for detecting and tracking an object in a picked-up image based on an image signal acquired by an imaging unit (Aviv: figure 1), comprising: an image input unit for converting the video signals acquired by said imaging unit sequentially into image signals (Aviv: column 3, lines 39-54; and a processing unit for processing said image signals converted by said image input unit (Aviv: column 5, lines 35-40), in a predetermined sequence (Aviv: column 8, lines 50-60); wherein said processing unit detects an image changing area between at least two frames of images picked up at different time points by said imaging unit, and based on said detected image changing area (Aviv: column 6, liens 50-60), detects the position of said object and sets said detected object position as a new detected object position in place of the present detected object position (Aviv: column 6, lines 7-30), as in claim 16.

Regarding claim 17, Aviv discloses wherein said processing unit compares two frames of images acquired at different time points from said imaging unit, and detects as the position of said object.an area where the greatest difference is detected (Aviv: column 6, lines 60-67), as in the claim.

Regarding claim 18, Aviv discloses wherein said processing unit detects an image changing area by comparing two frames of images acquired at different time points from said imaging unit in an uncontrolled state (Aviv: column 8, lines 45-65), as in the claim.

Regarding claim 19, Aviv discloses a control unit for controlling the imaging direction of said imaging unit based on the relation between said position of said object and a predetermined reference position within the imaging view field of said imaging unit (Aviv: column 7, lines 60-67; column 8, lines 1-10), and tracking an intruding object by holding said intruding object within the view field of said imaging unit (Aviv: column 8,lines 10-18), as in the claim.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pomerleau discloses a trainable security system.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy S. Rao whose telephone number is (571)-272-7337. The examiner can normally be reached on Monday-Friday 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571)-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andy S. Rao
Primary Examiner
Art Unit 2621

asr
October 24, 2006